AMSAT News Service Weekly Bulletins
Issue: ANS-168
Date: 1989-06-17
Sources: amsat-ans-1989-ans-168-weekly.txt

Posted: Sat, Jun 17, 1989 9:48 PM GMT Msg: NGIJ-3975-2080
From: AMSATDL
To: amsat
CC: uosat, is
Subj: HAPPY BIRTHDAY DEAR AO-13 & AO-10

HAPPY BIRTHDAY OSCAR-13 and OSCAR-10
==========

AMSAT OSCAR-13, the very successfully international spacecraft to support science education, amateur space communication and above all international friendship, is now * 1 Year * in Orbit.

Launched onboard the first ARIANE-4 Mission V22 on the 15th June 1988, the latest AMSAT communication satellite was born at 13:00 UTC, when separated from the transportation structure.

AMSAT OSCAR-13 (P3C) is the third unit of the third generation of the OSCAR satellite series, developed under the AMSAT programme. The first one, AMSAT P3A, was lost during the launch failure of ARIANE L02 on May 23, 1980. The second one, AMSAT OSCAR-10 (P3B), was successfully launched on ARIANE L6 on June 16, 1983.

Although OSCAR-10 suffers from the lost of its onboard computer (IHU) in January 1987, the satellite continue to fulfill amateur space communication now in the 6th year after launch.

Thanks to all institutions, organisations and individuals worldwide, who have contributed to the big success of AMSAT OSCAR-13.

May we hopefully have the same support for future projects, that a high powered follower, i.e. Phase-3D, will safe the future of amateur radio over satellites. It's time to think about it!

Vy 73's de Peter
DB2OS

AMSATDL
Posted: Sat, Jun 17, 1989 9:57 PM GMT Msg: IGIJ-3975-2089
From: AMSATDL
To: amsat
CC: dcowdin, is
Subj: AO-13 operations

PLEASE NOTE, THAT AO-13 IS NOW IN IT'S PLANNED ATTITUDE (178.3/2) AND FULLY OPERATIONAL ACCORDINGLY TO THE PREVIOUSLY ANNOUNCED TRANSPONDER SCHEDULE UNTIL AUGUST 14.
MODE-B IS NOW OPERATING THROUGH THE PERIGEE AND MODE-S IS ALSO AGAIN ON SCHEDULE. AS AN EXPERIMENT, 70CM AND 2M OMNI-ANTENNAS ARE CURRENTLY IN USE FROM MA230 TO MA30 - THESE MAY CHANGE IN THE NEXT DAYS..
73 PETER DB2OS
Posted: Sun, Jun 18, 1989 5:20 AM GMT Msg: IGIJ-3975-2369
From: DCOWDIN
To: IS
CC: W1AW
Subj: $ANS-168

SB ALL @ AMSAT $ANS-168.01
US4P TO BE PERMANENTLY ON AO-13

HR AMSAT NEWS SERVICE BULLETIN 168.01 FROM AMSAT HQ
SILVER SPRING, MD JUNE 17, 1989
TO ALL RADIO AMATEURS BT

US4P To Be Permanently On AO-13 After Joint US-USSR "DX-pedition"

Jim Hartwell (K7UDG) will be leaving soon along with several members of the Western Washington DX Club to join Gene Kestromin (UA4RZ) and the Ziland DX Club for three weeks of HF and AO-13 operations from the Soviet city of Kazan [Long=305 degrees West, Lat=55.75 degrees North, Elevation=80 meters]. This "DX-pedition" team will be using the "special" call of US4P ("United States 4 Papa"). This call was chosen to commemerate Independence Day (4th of July) which will coincidently, be the first day of operations for US4P. Operations for this "joint" US-USSR "DX-pedtion are scheduled to continue until July 21st. In addition to HF operations, AO-13 Mode B operations are also scheduled whenever AO-13 is within view of US4P. The planned Mode B downlink frequency will be 145.940 MHz. K7UDG pointed out the OSCAR operations on this DX event almost didn't happen due of the lack of a 70 cm transceiver. Because of the difficulty of obtaining commercial 70 cm equipment in the Soviet Union let alone the components to build a "homebrew" converter, K7UDG enlisted the aid of ICOM America. Thanks to ICOM America a brand new IC-475A was donated to the Ziland DX Club just in the "nick" of time. After K7UDG and the other members of the Western Washington DX Club return to Seattle, US4P will stay in operation pemanently on AO-13 from Central Asia. To complete their OSCAR station, the Ziland DX Club will be using a "rather" old IBM PC along with a copy of Quiktrak 4.0 to track OSCAR satellites. UA4RZ says that the enthusiasm for OSCAR operations in the Ziland DX Club is so great that they will soon be obtaining a G3RUH PSK Demodulator so that can be ready with the AMSAT MICROSATs/PACSATs which are scheduled to be launched later this year. So look to find US4P to be a familiar DX station to join the many other DX stations already on AO-13.

[NOTE: K7UDG wants to inform all radio amateurs that US4P will be on HF every evening at 03:30 UTC on a frequency of 14.272 MHz. Also, the Western Washington DX Club has designed a "special" T-shirt commemorating this joint US-USSR DX operating event and if you wish to find out how to obtain this T-shirt, contact K7UDG at (206) 334-2116.]

/EX
SB ALL @ AMSAT $ANS-168.02
AO-13 EXPERIENCES LUNAR ECLIPSE

HR AMSAT NEWS SERVICE BULLETIN 168.02 FROM AMSAT HQ
SILVER SPRING, MD JUNE 17, 1989
TO ALL RADIO AMATEURS BT

Lunar Eclipses "Blot" Out The Sun From AO-13 Often

On June 3, 1989 at 22:00 UTC AMSAT Ground Command Station Controller James Miller (G3RUH) was casually observing AO-13 PSK telemetry when suddenly he noticed something was drastically wrong. He first saw the battery voltage was falling rapidly; then there was not spin rate. Also, the beacon was warbling!\

At this point, with his heart pumping at full speed and sweat pouring down into his face, he noticed that solar panel temperatures were plunging. His mind raced to figure out what was happening to AO-13. Normally the solar panels stay near 8 degrees C but James quickly noted they were at -10 degrees C! Since the satellite spin rate was calculated from data taken from a sun sensor and the spin rate was showing zero, everything indicated that there was a solar eclipse -- but how could that be possible since there were no predicted eclipses until November. But then it dawned on G3RUH that the situat-

ion he was seeing was caused perhaps by a LUNAR eclipse. Upon checking the Astronautical Almanac, he found that AO-13 was indeed being blocked by the Moon! After 20 minutes AO-13 came out of the lunar eclipse and the telemetry indicated that everything was back to normal. From further analysis, G3RUH found that lunar eclipses are a rather common occurence. So in keeping with his "detective spirit," G3RUH has produced the following table. AO-13 users should keep this table posted in the ham shack so as to be aware when these lunar eclipses will occur and AVOID operating during these times.

Predicted eclipses, to the end of 1990 are given below. They are of course only as accurate as one can extrapolate AO-13 Keplerian elements this far ahead.

Date	UTC HH:MM	DUR min	Orbit No.	MA/256 Start	MA/256 End	Max Obs %	Satellite visible from:
1989 Aug 31 [Thu]	07:09	33	929	13	25	9	S Afr, Aus, India
1990 Jan 26 [Fri]	15:00	26	1240	25	34	85	Aus, Pacifica
1990 Feb 25 [Sun]	06:36	25	1302	70	80	8	N Amer, EU, JA, USSR
1990 Mar 26 [Mon]	22:15	33	1364	115	128	11	NE USA, EU, Afr, JA

[PLEASE NOTE: "Max Obs %" means "maximum obscuration" in terms of area of the Sun's disc. 0=no eclipse, 100=total. These calculations use a Sun model accurate to 0.1', Moon to about 1.0', and AO-13 to the accuracy of the published Keplerian elements.

The partal eclipse of 1989 Aug 31 can also be seen from the ground, from the extreme SE Africa, Madagascar and part of Antartica. The eclipse of 1990 Jan 26 is annular, that is, AO-13 will "see" the whole of the Moon's disc surrounded by a halo of sunlight. On the ground, observers in the South of New Zealand, Antarctica and South America will also witness an annular eclipse.
WARNING: NEVER LOOK DIRECTLY AT THE SUN WITH NAKED EYE OR TELESCOPE.]

/EX
SB ALL @ AMSAT $ANS-168.03
MICROSAT PROGRESS REPORT #5

HR AMSAT NEWS SERVICE BULLETIN 168.03 FROM AMSAT HQ
SILVER SPRING, MD JUNE 17, 1989
TO ALL RADIO AMATEURS BT

Major "Milestones" Being Met In MICROSAT Construction

The following MICROSAT Progress Report is made possible by information supplied by Jose Machao (LU7JCN) of AMSAT-LU and Jeff Zerr of AMSAT-NA.

1) Jose reports that all transmitter exciter boards have been completed and tested for frequency stability between the temperatures of +5 degrees C to +15 degrees C. He reports that frequency stability is excellent and the efficiency of the "flight" transmitters is about 72%.

2) All of the printed circuit boards (PCB) for each of the MICROSAT flight computers are being readied to be sent to GMI on the east coast for component "stuffing." A major effort in getting the boards ready are ordering all the necessary integrated chips (ICs). As soon as flight computer part "kits" have been completed for each of the PCBs, they will be sent out. It was felt that because the flight computer PCBs are so complicated due to the six layers and the presence of surface mounted components, it was felt that sending out the PCBs to GMI was the best way to have the components mounted properly. Jeff Zerr requests that if there are any IC procurement "experts" who wish to help AMSAT-NA get the necessary components to please contact him at the MICROSAT Lab in Boulder, CO at (301) 530-7233. The part "kits" are about 70% completed.

3) All four baseplates for the MICROSATs have been completed and accepted. These baseplates will "hold" the MICROSATs to the Ariane Smally Auxillary Payload (ASAP) structure during launch.

4) All the lateral solar panels have been completed. The top and bottom solar panels for the each of the MICROSATs will be completed later.

5) The Battery Charge Regulators (BCR) will be arriving this week from Jon Bloom, KE3Z. They were designed and built by KE3Z using the resources of the ARRL. The first set of batteries have been mounted and glued into place in the battery module.

6) The receiver modules are scheduled to start arriving next week. The receivers are being built by Tom Clark (W3IWI).

/EX
SB ALL @ AMSAT $ANS-168.04
NEW 17 METER NET PLANNED!

HR AMSAT NEWS SERVICE BULLETIN 168.04 FROM AMSAT HQ
SILVER SPRING, MD JUNE 17, 1989
TO ALL RADIO AMATEURS BT

New AMSAT HF Net Being Planned on 17 Meters Starting July 2, 1989

Doug Lougmiller (KO5I) has announced this week that a new 17 Meter AMSAT HF Net will commence operation on Sunday, July 2, 1989 at 23:00 UTC. The frequency for this new 17M Net will be 18.155 MHz. The Net Control Stations will be KO5I and John Shew (N4QQ). KO5I cited the several unsual aspects of this band for introducing this new AMSAT HF Net to this newly opened band for amateur operations. One of the factors which makes this a good band for HF Net operations is the lack of QRM which makes Net operations difficult on 75M and 20M. Another aspect of the 17M band is the unusual band openings which make this band ideal for stations in Europe. So start planning to join KO5I and N4QQ on 18.155 MHz on Sundays at 23:00 UTC. KO5I encourages all OSCAR enthusiast to start building simple "dipoles" and "sloper" antennas, as he did, in order to be ready for this new AMSAT HF Net on July 2nd.

/EX
SB ALL @ AMSAT $ANS-168.05
AMSAT-NA BBS DOWN TEMPORARILY

HR AMSAT NEWS SERVICE BULLETIN 168.05 FROM AMSAT HQ
SILVER SPRING, MD JUNE 17, 1989
TO ALL RADIO AMATEURS BT

AMSAT-NA BBS Experiences A Hard Disk "Crash"; Temporary Hard Disk Installed

Mike Parisey (WD0GML) System Operator for the AMSAT-NA BBS reported this week to AMSAT-NA officials that a hard disk "crash" occured Thursday night of this week and had temporarily put the AMSAT-NA BBS out of service. At the present time a "temporary" replacement hard disk has been installed which can keep the BBS "limping" along until a 40 Megabyte replacement hard disk can be ordered and installed. In the interim, AMSAT BBS users can still pick up the latest AMSAT News Service (ANS) Bulletins and Keplerian orbital elements. Only a few of the items on the main "menu" have been affected. Please take note of the "sign-on" message to AMSAT-NA BBS for the latest status. A replacement hard disk will be installed as soon as possible.

[PLEASE NOTE: AMSAT-NA Bulletins can be taken off of the Dallas Remote Imaging Group (DRIG) BBS at (214) 394-7438. Jeff Wallach (N5ITU), System Operator for the DRIG wants to inform all AMSAT BBS users that they are welcome to use the DRIG BBS at any time. Jeff says that the ANS Bulletins can

be found by selecting "Bulletin #7" from the main menu.]

/EX
SB ALL @ AMSAT $ANS-168.07
AMSAT-NA BOD NOMINATIONS OPEN

HR AMSAT NEWS SERVICE BULLETIN 168.07 FROM AMSAT HQ
SILVER SPRING, MD JUNE 17, 1989
TO ALL RADIO AMATEURS BT

AMSAT-NA HQ Announces That Nominations For Board-of-Director Are Now Open

AMSAT-NA Headquarters announces that nominations for the office of Director are now in order. According to the AMSAT-NA Bylaws (see ASR #187), four out of the seven Board-of-Director (BOD) seats will be up for election this year. The seats on the "Board" which are up for election this year are currently filled by the following individuals:

1) Bill Tynan (W3XO)
2) Jan King (W3GEY)
3) Bob McGwier (N4HY)
4) Andy MacAllister (WB5ZIB)

Each Director will serve for a two year term. Any five "current" AMSAT-NA members or a Member Society, can nominate an individual for a seat on the "Board." Nominees will be asked to provide minimal background and bio-graphical data for publication in Amateur Satellite Report (ASR) and for inclusion with the ballot. Please send your "nominating" petitions to:

AMSAT-NA HQ
Suite #600
850 Sligo Avenue
Silver Spring, MD
20910

The DEADLINE for submitting your petitions for your nominee to fill one of these seats on the AMSAT-NA "Board" is July 7, 1989.

/EX
SB ALL @ AMSAT $ANS-168.07
AMSAT SHORT BURSTS

HR AMSAT NEWS SERVICE BULLETIN 168.07 FROM AMSAT HQ
SILVER SPRING, MD JUNE 17, 1989
TO ALL RADIO AMATEURS BT

AMSAT Short Bursts
O S C A R - 1 3

Date	: 14Jun89 until 16Aug89	! 16Aug89 until 16Nov89
BLON/BLAT	: 178.3/2	! 210/0
Mode-B	: MA 000 to MA 110	! MA 003 to MA 160
Mode-JL	: MA 110 to MA 145	! MA 160 to MA 200
Mode-B	: MA 145 to MA 255	! MA 200 to MA 240
OFF	: %	! MA 240 to MA 003
Mode-S	: MA 150 to MA 160	! MA 210 to MA 222

Transponders will be in operation during the whole orbit from June 14 until August 16 due to excellent sun angles and power budgets. However, no perigee operations will occur between August and November due to perigee solar eclipses! The 70cm and 2M omni directional antennas will be used from MA 230 until MA 30.

The ZRO Memorial Technical Achievement Award Program, or just "ZRO Test" will

be reactivated in July following the mid-June reorientation of AO-13. The following schedule of Mode "B" ZRO tests with a downlink frequency of 145.840 MHz was chosen for convenient operating times and favorable "squint" angles. AO-13 users who don't wish to participate in the ZRO Test are asked to avoid operating on or near that frequency during these ZRO Test times. Please post the following list of times in your ham shack for the ZRO Tests so that you will have them handy for quick reference:

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            Saturday   July  1, 1989 at 21:10 UTC
            Saturday   July  8, 1989 at 04:50 UTC
            Sunday     July 16, 1989 at 07:20 UTC
            Saturday   July 22, 1989 at 20:50 UTC
            Saturday   July 29, 1989 at 04:20 UTC
            Saturday August 12, 1989 at 20:20 UTC
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Any changes will be announced as soon as possible via the AMSAT HF and AO-13 Operations Nets. ZRO brochures are available from WA5ZIB, Andy MacAllister, AMSAT V.P. of User Operations, 14714 Knightsway Drive, Houston, TX 77083 for an S.A.S.E. with one unit of postage. The brochure characterizes test procedures, means for obtaining certificates, and gives some historical background about the program. All listener reports with date of test and numbers copied should be sent to WA5ZIB at the address above. A report will be returned verifying the level of accurate reception.

Many AO-13 users are unaware that there is an AMSAT Operations Net which is conducted on AO-13 several times each month to help answer questions about OSCAR satellites and to provide information about the many exciting things going on in AMSAT. The following is a list of the times for the Ops Net. Please place this list in a convenient place in your OSCAR station so that you won't miss out on this interesting net which is offered as a service to all AMSAT members.

Here is the Ops Net schedule through June:

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Date     UTC    orb-phs   NCS

25 Jun  0300    790-055          (24 Jun local)
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Nets can be held on B or JL, but if the AO-13 satellite schedule is changed such that the Ops Net falls during an "off" period, it will be rescheduled. Downlink frequencies are 145.950 MHz and 435.970 MHz for Mode B and JL, respectively. All these are for AO-13 but AO-10 is sometimes used when available.

The following is the operating schedule for FO-12 for the rest of the month of June:

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DATE       MODE      OPERATING PERIOD
06/21/89    JA        01:43 UTC until 18:38 UTC
06/24/89    JA        01:03 UTC until 17:58 UTC
06/29/89    JA        00:35 UTC until 15:29 UTC

de DB2OS  01May89:   ***  AO-10 TRANSPONDER SCHEDULE ***
                          01May89 to 13Jul89

                   Mode-B  : from  MA 025 to MA 225
                   OFF     : from  MA 226 to MA 024

/EX
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Posted: Sun, Jun 18, 1989   5:48 AM GMT             Msg: NGIJ-3975-2388
From:   TCLARK
To:     amsat, is
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Subj: BID problem in this week's bulletins

For those of you who post the bulletins onto your local packet BBS, be advised that there is a problem in the Bulletin IDs (BIDs) this week. There are two $ANS-168.07 items and no $ANS-168.06 item. As I posted them here, I made $ANS-168.06 be the first of the two .07's (this is the election bulletin) and left SHORT BURSTS remain as $ANS-168.07.

Suggest you all make this change as you post them -- 73, Tom